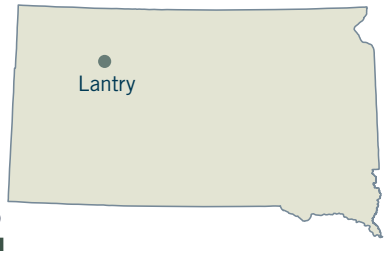
LANTRY OIL

CHEYENNE RIVER INDIAN RESERVATION
LANTRY, SOUTH DAKOTA

March 2009



ACCOMPLISHMENTS

- Conducted site investigations
- Installed 16 MWs
- Groundwater monitoring
- Evaluated potential indoor air exposure pathways
- Performed AS/SVE pilot study
- Evaluated technical and economic feasibility of SVE system as remedial strategy
- Evaluated MNA as remedial strategy
- Designed and installed full-scale SVE system
- Operated and Maintained SVE system

EPA Region 8 performed this work in partnership with the Cheyenne River Sioux Tribe and with contract support from Avanti Corporation.

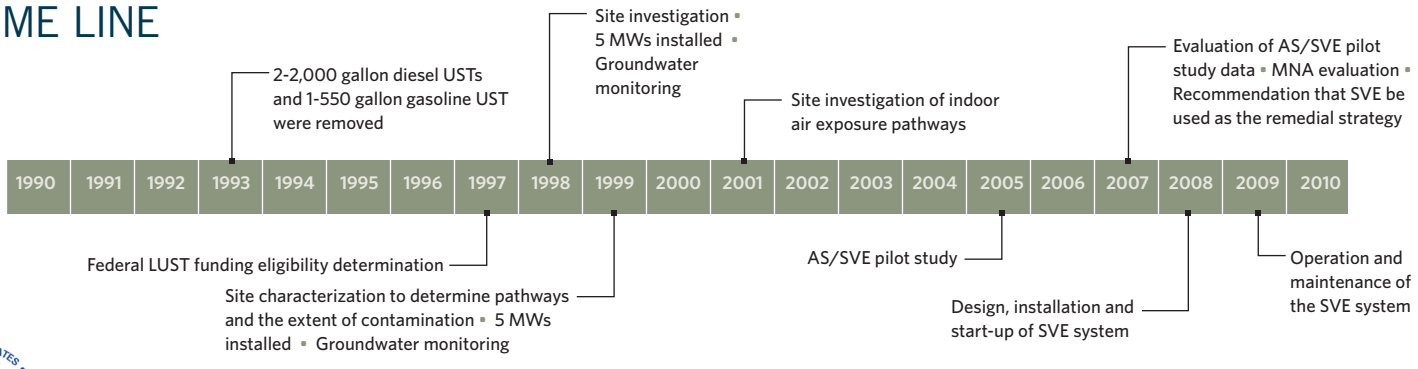
PLANNED ACTIVITIES/ FUTURE STRATEGIES

- In-situ chemical oxidation (ISCO) injections to further remediate the contamination
- Groundwater monitoring
- Continued operation and maintenance of the SVE system

SITE HISTORY

In 1993, 2-2,000 gallon diesel oil underground storage tanks (USTs) and 1-550 gallon gasoline UST were removed from the site. State of South Dakota inspectors reported that petroleum odors and soil contamination at the bottom of the tank pit were present when the USTs were removed. Sampling and laboratory analysis of samples taken from the site indicated contamination of BTEX, naphthalene, and TPH. In 1997, the site became eligible for federal leaking underground storage tank (LUST) funding. Monitoring wells (MWs) were installed at the site to determine the extent of the contamination, exposure pathways, and risk to receptors. Indoor air samples also were collected in the on-site buildings. In 2005, an air sparge/soil vapor extraction (AS/SVE) pilot study was conducted. An analysis of the pilot test concluded that AS/SVE remediation was economically and technically feasible for remediation of the soil and groundwater contamination at the site. After evaluation of the pilot study data and monitored natural attenuation (MNA) as remediation alternatives, it was determined that the installation of a SVE system would be the most viable remediation option for the site. A full scale SVE system was designed and installed at the site. The SVE system was tested and became operational in June 2008. The system specifically targets residual hydrocarbons from the vadose zone. It was determined that contaminant impacts to groundwater also will be mitigated over time as the contributing source of hydrocarbons in the soils is reduced. This was the first SVE remediation system installed in EPA Region 8.

TIME LINE



EPA Region 8 UST Program Technical Contact | Mr. Raymond Faliskie | (303) 312-6124 or faliskie.raymond@epa.gov | www.epa.gov/region8/ust/